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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

Arizona Corporation Commission

DOCKETED

SEP 10 2014

AZ CORP COMMISSION
DOCKET CONTROL

DOCKETED BY

ORIGINAL

IN THE MATTER OF THE
APPLICATION OF ARIZONA PUBLIC
SERVICE COMPANY FOR A RULING
RELATING TO ITS 2015 DEMAND
SIDE MANAGEMENT
IMPLEMENTATION PLAN.

DOCKET NO. E-01345A-14-0261

**NOTICE OF FILING
CORRESPONDENCE AND
ATTACHMENTS RELATING TO
FREEPORT-MCMORAN COPPER &
GOLD INC.'S REQUEST FOR AN
EXEMPTION FROM THE ARIZONA
CORPORATION COMMISSION
ENERGY EFFICIENCY RULES**

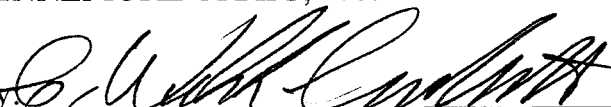
On August 27, 2014, Freeport-McMoRan Copper & Gold Inc. ("Freeport-McMoRan") filed a Request that its filing for a Request For Exemption From A.A.C. R14-2-2401, *et seq.* which was filed in Docket No. E-01345A-13-0109 on March 17, 2014, be transferred to Docket No. E-01345A-14-0261. However, Commission Staff ("Staff") requested that Freeport-McMoRan refile its Request For an Exemption in the above captioned docket and Freeport-McMoRan has therefore refiled its Request For An Exemption From A.A.C. R14-2-2401, *et seq.* in Docket No. E-014A-14-0261.

Staff has also requested that Freeport-McMoRan refile correspondence and attachments previously filed in Docket No. E-01345A-13-0109 in Docket No. E-01345A-14-0261. Freeport-McMoRan hereby files a copy of the correspondence from Mr. Michael McElrath to Ms. Julie McNeely-Kirwan dated July 8, 2014 in the above captioned docket.

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RESPECTFULLY SUBMITTED this 10th day of September, 2014.

FENNEMORE CRAIG, P.C.

By: 


C. Webb Crockett
Patrick J. Black
Attorneys for Freeport-McMoRan Copper
& Gold Inc. and Arizonans for Electric
Choice and Competition

ORIGINAL and 13 copies filed
this 10th day of September, 2014 with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

COPY of the foregoing hand-delivered/mailed/emailed
this 10th day of September, 2014 to:

Thomas L. Mumaw
Melissa M. Krueger
Pinnacle West Capital Corporation
400 North 5th Street, MS 8695
Phoenix, Arizona 85004
Thomas.Mumaw@pinnaclewest.com
Melissa.Krueger@pinnaclewest.com

By: 
9495340/023040.0041

ATTACHMENT 1

**Letter dated July 8, 2014 to Ms. Julie McNeely-Kirwan
from Mr. Michael McElrath (Freeport-McMoRan)**



Phoenix Corporate Office
333 N. Central Ave.
Phoenix, AZ 85004

Michael McElrath
Director Energy Services
Telephone: 602-366-8361
e-mail: michael_mcelrath@fmi.com

July 8, 2014

Ms. Julie McNeely-Kirwan
Public Utilities Analyst
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Re: Freeport-McMoRan ("FCX") Energy Efficiency Exemption Request

Dear Ms. McNeely-Kirwan:

Thank you for your patience while we gathered the material to respond to your inquiries. While your requests are simple enough, our responses are complex as most mining related projects we undertake glean a higher percentage of copper recovery from each ton of ore. This increases energy efficiency per pound of copper produced. As a commodity producer, the market sets our sales price, we only control our costs of production and are thus motivated to keep our costs as low as possible.

Below are your questions and our responses:

- How many location accounts above 25MW are there in the area served by APS?
Please indicate both the location account number and the rate schedule.
 - One account over 25 MW located at Bagdad, AZ, our Bagdad Mine, Account No. 705867280, E-35 rate schedule
- How many location account above 25MW are there in the area served by TEP?
Please indicate both the location account number and the rate schedule.
 - One account over 25 MW located near Green Valley, AZ, our Sierrita Mine, Account No. 0232600092, LLP90 rate schedule
- Please list the significant energy efficiency measures installed by the Company in Arizona over the last two years. List the level and type of savings, the cost, and the utility service area in which the measure was installed.

- o The APS and TEP tables below detail the projects submitted under the utility self-direction programs. The related utility worksheets are attached for each project.

Table 1 - APS/Bagdad: Specific Utility Related Energy Efficiency Projects							
Utility	FCX Location	Year	Project	Total Project \$	Savings Type	Annual kWh Saved	Rebate \$
APS	Bagdad	2012	Mine Shovel Retrofit	\$107,000	Lighting	173,000	\$107,000
APS	Bagdad	2013	FMI Floatation LED Lighting Costs	\$168,000	Lighting	94,000	\$72,000

Table 2 - TEP/Sierrita: Specific Utility Related Energy Efficiency Projects									
Utility	FCX Location	Year	Project	Total Project \$	Savings Type	Annual kWh Saved	Rebate \$	Application	Custom Incentive Worksheet
TEP	Sierrita	2012	Building Lighting Improvements - Mine Truck Shop	\$21,500	Lighting	115,600	\$9,400	Pending	Pending
TEP	Sierrita	2013	Mill Concentrator Floatation Cells	\$56,300,000	Operating Efficiency	5,900,329	\$590,032.90	*	Yes
TEP	Sierrita	2013	Crusher Upgrades - Dust Collectors	\$16,000,000	Operating Efficiency	14,695,776	\$1,497,759.81	*	Yes
TEP	Sierrita	2013	A-3, B-3 and B-4 Drive Upgrade (Overland Conveyor Upgrade)	\$830,880	Operating Efficiency	1,286,976	\$128,697	Yes	Yes

* - FCX was unable to locate the Applications for the Mill Concentrator and the Conveyor Upgrade. However, FCX has received the rebates.

- o While not project specific, the table below details the motors we have installed by location and utility since 2012.

All the high efficiency motors referenced in the chart to the right for APS Bagdad and TEP Sierrita have not been included in rebate requests from the utility as documentation requirements are too burdensome.

The Morenci and Safford mines are served by Morenci Water & Electric, which has no ACC mandated energy efficiency program.

Horsepower Summary					
Sum of HP		Year			
State	Plant Name	2012	2013	as of Apr '14	Grand Total
Arizona	APS - Bagdad	1,473	4,087	441	6,001
	MW&E - Morenci	53,971	31,185	14,508	99,643
	MW&E - Safford	3,128	3,545	1,058	7,730
	TEP - Sierrita	22,507	18,560	4,767	45,834
Arizona Total		81,078	57,365	20,773	159,207
Motor Cost Summary					
Sum of Amount Paid		Year			
State	Plant Name	2012	2013	as of Apr '14	Grand Total
Arizona	APS - Bagdad	\$ 189,994	\$ 354,743	\$ 45,858	\$ 590,595
	MW&E - Morenci	\$ 2,667,160	\$ 1,854,899	\$ 683,131	\$ 5,305,191
	MW&E - Safford	\$ 210,245	\$ 144,426	\$ 22,900	\$ 377,571
	TEP - Sierrita	\$ 1,351,345	\$ 1,274,358	\$ 482,025	\$ 3,107,728
Arizona Total		\$ 4,418,744	\$ 3,728,426	\$ 1,233,915	\$ 9,381,085

The following is a quote from FCX's US Motors' representative, Richard Beach, Sr. Territory Manager, Nidec Motor Company, manufacturer of the US Motors brand of electric motors, describing FCX's motor related purchases and how FCX meets or exceeds energy efficiency standards:

"FCX currently holds a motor supply agreement with US Motors. According to Federal guidelines enacted in 2010 and posted by NEMA (National Electrical Manufacturers Association), all Nema frame motors manufactured or imported into the United States will meet "Nema Premium" efficiency levels. These motors are generally up to 500hp and less than 600v. There are no standards for energy efficiency above Nema frames and/or Medium Voltage as motors above these thresholds are usually custom built. Generally, these larger than Nema frame motors are purchased to replace older motors that are not economic to rebuild. These motors are usually more efficient than their older counterparts for a number of reasons. Computer aided design allows us to optimize designs with higher standard efficiencies. We provide higher grade Silicon laminations, with more copper in the slots. Better higher efficiency bearings and more efficient air flow through the motor to have resulted in higher motor efficiencies. On the other side the old motor has been rewound many times and generally has worn out over time, including breakdown of insulation. This results in FCX is replacing an old inefficient motor with a higher efficient motor over time.

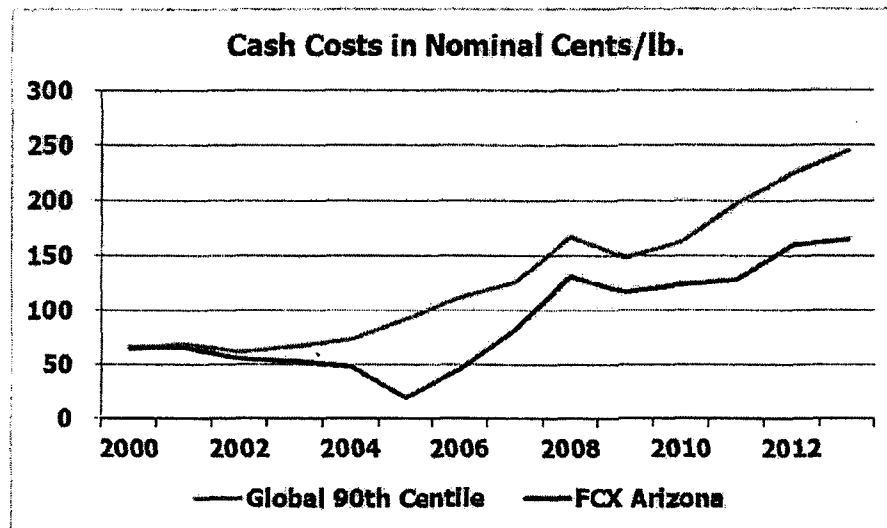
Note: The Energy Independence and Security Act of 2007 (EISA) went into effect on December 19, 2010. Certain motors "manufactured (alone or as a component of another piece of equipment)" were required to have nominal full load efficiencies defined in NEMA MG-1 (2006). Motors manufactured after December 19, 2010, were to comply with that law. NEMA MG 1-2011 is the current standard. Specifically, the new legislation restates the definition of General Purpose Electric Motors as defined in 10 CFR 431 from the Energy Policy and Conservation Act of 1992 (EPCA), classifies these motors as Subtype I, and also defines a new category of General Purpose Motors, Subtype II, as motors incorporating design elements of a general purpose motors (Subtype I). New regulations are pending for 2015."

- Provide the same information for any planned energy efficiency installations. Include, also, the anticipated completion date.

Table 3 – All Facility: Major Planned Energy Efficiency Projects							
Utility	FCX Location	Year	Project	Total Project \$	Savings Type	Annual kWh Saved	Rebate \$
APS	Bagdad	2014	Rougher Floatation Circuit Replacement	\$65,700,000	Electrical, Maintenance	TBD	TBD
MW&E	Morenci	2014	Morenci Mill Expansion	\$1.86Billion	New Installation	NA	NA

- In the application, Freeport-McMoRan states that it has "historically budgeted some \$10 million annually on energy-related technology." Is "energy-related technology" a synonym for "energy efficiency"? If not, what does the Company mean by this term?
 - FCX has patents and patent applications around technology that consumes less energy per pound of copper produced than the process it replaces. Mining is a composite of energy intensive processes to produce pure copper from copper ore. The historic \$10 million annual budget is spent seeking ways to more efficiently produce copper in the conduct of our mining processes.
- Is it correct to state that Freeport-McMoRan reported \$63.47 in total assets for 2013?
 - Yes, FCX reported \$63.473 billion in assets as of 12/31/2013.

- With respect to the first bullet, below, please indicate whether the installed measures are more efficient than the industry standard.
 - The chart below reflects the positive results of our efforts to become more efficient at FCX's Arizona mines compared to other mines in the world.



Source: WoodMackenzie Historical Data, Jun '14

As the WoodMackenzie graph above depicts our Arizona mines have been reducing the cost per pound of producing copper relative to other mines in the world. It is also important to note that our Arizona mines have a lower percentage of copper in the ore than the world wide average, so the fact that we still have a lower operating cost than average again demonstrates our focus on energy related technology has been effective.

From our responses to your inquiries it should be clear that FCX is not the average utility customer. Our Sierrita mine, for example, has over 14 square miles of distribution system behind the TEP meter. This 14 square mile distribution system is required to supply all the mine processes. Our processes do not require sub-metering at every load center to meter power consumed for the 6-7 necessary mining processes in producing copper, as we manage the resulting material flows (ore, crushed rock, water and/or solution, or tailings to name some). This is a factor in FCX not being able to claim utility rebates on all of our high efficiency motor rebates, or process improvements under the utility self-direction programs. FCX measures efficiency improvements under the industry standards of total cost per pound of copper produced. Electrical power is an important input to all these processes, but is not tracked individually at each load. Think of each of our mines as a car. When you change the headlights on a car to LED headlights, without additional investment or test equipment, it would be nearly impossible to accurately calculate the additional gas mileage the car gets because the alternator is not working as hard to supply the LED lights with power.

Metrics over a short time period is another factor in qualifying our process improvements for the utility. Each mine pit may be a mile deep and several miles long. The ore grade, ore type, and ore hardness is not the same throughout the pit. We have 5 or more shovels operating at various locations in the pit at all times, thus the ore being processed is not the same ore grade, ore type, or ore hardness day-to-day. It is not economic to have the 3rd party engineer review a long period of history and compare to an extended time period after we make a process change to quantify the kWh saved. Think of our various ore grades and ore types as the weather in Phoenix. On average our temperature is some 73 degrees, but hardly any given day is average. FCX makes process changes on the average ore grade and ore type. It takes a long time to prove saving given the daily fluctuations in the ore grade and ore type.

Please feel free to contact me if you require additional information or have questions on the material above.

Sincerely,

A handwritten signature in cursive script, reading "Michael McElrath".

Michael McElrath

Direct phone: 602 366 8361

ATTACHMENT 2

Table 1

Custom Application Form Retrofit

APS Application #

Customer Information

Pre-Notification <input checked="" type="checkbox"/>		Final Application <input type="checkbox"/>	
Application Type	Submission Date: 06/25/12	Submission Date:	
Retrofit	Estimated Completion Date: 07/15/12	Project Completion Date:	
Name of Project	Bagdad Mine Shovel Lighting Upgrade to LED Lighting		Business Type (Click and select below)
Name of Organization	Freeport MCMoran Copper & Gold Inc.		Industrial
Federal Taxpayer ID Number	Tax Status (Select status at right) Corporation, Tax-Exempt, Other	Corporation (incl. Inc, PC, etc.)	
Name as it appears on your APS bill	Freeport MCMoran Copper & Gold Inc.	APS Account Number	512616284
Name of Contact Person at Organization	LeRoy Miera	Telephone #	928-633-3261
Title	Engineering Manager	Email Address	LeRoy_Miera@FMI.com
Paperless Notices	No, send notices to the customer and contractor(s) via US Postal service mail.		
Address where Measures Installed	FMI Bagdad Mine		
City, State, Zip (Measures Installed)	Bagdad, Az 86321		
Mailing Address	Same As Above	P.O. Box 245	
City, State, Zip (Mailing Address)	Bagdad, Az 86321		
Contractor Information			<input type="checkbox"/> I would like to be considered for financing under the National Bank of Arizona financing option (please complete 3rd Party Payment page)
	Contractor / Vendor (primary contact)	Associated Contractor / Vendor	
Company Name	FMI Maintenance Staff		Est. Square Footage
Contact Person	LeRoy Miera		N/A
Telephone #	928-633-3261		Building Age (Click and select below)
Mailing Address City, State, Zip	PO Box 245, Bagdad, Az 86321		Pre-1970
Email Address	LeRoy_Miera@FMI.com		Pre-1970 1970 - 1989 1990 - 2000 2001 - present
Incentive Check Information			
Issue Incentive Check to: (check only one)	<input checked="" type="checkbox"/> Send to Customer listed above. <input type="checkbox"/> I request that the incentive check be issued to the third party indicated on the Third-Party Payment page.		
Please indicate below if your organization intends to file for tax incentives related to the measures in this application.		Please indicate below if your organization will receive grants (e.g. ARRA, state funds) related to the measures in this application.	
No		No	
Please complete the following section. By signing this agreement I attest that I understand and agree to abide by all program terms and conditions.			
Customer Signature		\$107,311.53	
Print Name		Total Project Cost	
Date		\$107,311.53	
		Total Incentive Requested	
Please print out, sign, and return with Pre-Notification Application. For Final Applications, sign and submit after all equipment has been installed.			





Solutions
for Business

Self Direction Notification

Customer Information

Name on APS Account: Freeport McMoRan Bagdad Inc.,
APS Main Account #: 512616284
Billing Street Address: 100 Main St.
Billing City & ZIP: Bagdad AZ, 86321

Project Description

Upgrade to replace existing exterior mercury vapor lighting, exterior incandescent lighting and interior fluorescent lighting to LED lighting on P&H mining shovel #8 Serial #55275.
Upgrade to replace existing exterior mercury vapor lighting and exterior incandescent lighting on P&H mining shovel #10 Serial #4149, shovel #11 Serial #4166, shovel #21 Serial #55268 and shovel #22 Serial #54855. This is for 5 shovels.

Estimated Annual kWh Project Savings	172,781
Estimated Incremental Project Cost	\$107,311.53
Estimated Total Project Cost	\$107,311.53
Estimated Construction Start Date	January 2, 2012
Estimated Date of Operation	October 26, 2012

This form must meet the requirements of the Self Direction Terms & Conditions.

I agree to the Terms & Conditions associated with electing the Self Direction option of the APS Solutions for Business Demand Side Management (DSM) Program. Projects must be cost effective and meet the same requirements as APS Solutions for Business DSM projects.

X 

Signature

Clinton D. Gray

Print Name

928-633-3411

Phone #

12-7-12

Date

Mine Electric Supervisor

Job Title

clinton_gray@fmi.com

Email Address

Custom Application Form New Construction

APS Application #

Custom ☒ Information

New Construction ☐

Pre-Notification

Final Application

Application Type

Submission Date:

Industrial

Submission Date:

11/27/13

Estimated Completion Date:

Project Completion Date:

11/01/13

Name of Project	Bagdad Mine Flotation Cell Exterior LED Lighting		Business Type (Click and select below)
Name of Organization	Moran Copper & Gold Inc.		
Federal Taxpayer ID Number	Tax Status (Select status at right) Corporation, Inc., PC, etc.		K-12 School College / University Office Retail Restaurant Hotel / Motel Medical Grocery Warehouse Industrial Miscellaneous Data Center
Name as it appears on your APS bill	Freeport MCMoran Copper & Gold Inc.	APS Account Number 512616284	
Name of Contact Person at Organization	Thomas R. Knudsen	Telephone # 368-7488 Ext #	
Title	Manager - Energy	Email Address thomas_knudsen@fmi.com	
Paperless Notices			
Address where Measures Installed	FMI Bagdad Mine		
City, State, Zip (Measures Installed)	Bagdad, Az 86321		
Mailing Address	P.O. Box 245		Is this a Government entity?
City, State, Zip (Mail)	Randall, Az 86321		

Contractor Information			I would like to be considered for financing under the National Bank of Arizona financing option (please complete 3rd Party Payment page)
	Contractor / Vendor (primary contact)	Associated Contractor / Vendor	
Company Name			
Contact Person			Est. Square Footage
Telephone #			N/A
Mailing Address			Building Age (Click and select below)
City, State, Zip			
Email Address			
Incentive Check Information			Pre-1970 1970 - 1989 1990 - 2000 2001 - present
Issue Incentive Check to: (check only one)	Send to Customer listed above. I request that the incentive check be issued to the third party indicated on the Third-Party Payment page.		

Please indicate below if your organization intends to file for tax incentives related to the measures in this application.

Please indicate below if your organization will receive grants (e.g. ARRA, state funds) related to the measures in this application.

Please complete the following section. By signing this agreement I attest that I understand and agree to abide by all program terms and conditions.

Customer Signature
Print Name
Date

\$168,418.00

Total Project Cost

\$71,814.00

Total Incentive Requested

Please print out, sign, and return with Pre-Notification Application. For Final Applications, sign and submit after all equipment has been installed.

 solutions for business



Solutions
for Business

Self Direction Notification

Customer Information

Name on APS Account: Freeport-McMoRan Bagdad, Inc.

APS Main Account #: 512616284

Billing Street Address: 100 Main Street

Billing City & ZIP: Bagdad, AZ 86321

Project Description

Freeport has completed construction of a new mine processing facility (flotation cells) and elected to install LEDs in place of HID fixtures

for the exterior lighting. The exterior lighting at this facility is subject to extreme operating conditions, such as very high vibration which can

cause premature failure of filament-based lamps. This consideration resulted in elevated maintenance savings realized throughout the life of the LED fixtures.

The incremental cost for the project is based on the difference between the total installed cost of the LED fixtures relative to the HID fixtures.

Estimated Annual kWh Project Savings	94,096
Estimated Incremental Project Cost	\$71,814.00
Estimated Total Project Cost	\$71,814.00
Estimated Construction Start Date	08/01/13
Estimated Date of Operation	11/01/13

This form must meet the requirements of the Self Direction Terms & Conditions.

I agree to the Terms & Conditions associated with electing the Self Direction option of the APS Solutions for Business Demand Side Management (DSM) Program. Projects must be cost effective and meet the same requirements as APS Solutions for Business DSM projects.

X

Signature

Date

Print Name

Job Title

Phone #

Email Address